Dated: 4/25/2018

LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SPECIFICATIONS

PREVENTATIVE MAINTENANCE (PM) SERVICE OF THE UNINTERRUPTABLE POWER SUPPLY (UPS) SYSTEM DOTD DISTRICT 04 3339 INDUSTRIAL DR., BOSSIER CITY, LA 71112

SCOPE OF WORK

Contractor shall perform Preventative Maintenance (PM) Services of the Liebert 300 Series Uninterruptable Power Supply (UPS) system located at the DOTD District 04, 3339 Industrial Dr., Bossier City, LA 71112. Preventative maintenance shall include the UPS system and all equipment associated with the units, including but not limited to a quantity of 17 HRL 12500WFR batteries, battery cabinets, capacitors, circuit control boards, and all related components.

GENERAL REQUIREMENTS

Contractor shall have all necessary licenses by the city, parish and state to perform the work specified herein. All work shall be performed by a service technician that is factory trained/certified to work on the specified Liebert system.

Contractor shall schedule all PM Services in advance with the Contract Administrator. Services shall be performed at a mutually agreeable time in the intervals noted throughout this document.

All services shall be performed either during normal on-line operation with no damage to the UPS's operational condition nor the critical load, or during off-line operation in the bypass mode. Any major shut downs that may impact the flow of continuous electricity supply in order to properly perform the requirements of the PM service shall be coordinated by the Contractor with the Contract Administrator at least seven (7) days in advance of the scheduled shutdown.

Contractor or Contractor's service personnel shall report to the Contract Administrator or designee upon arrival at the location to be serviced. Service shall not begin until contact has been made with the Contractor Administrator or designee. After service has been completed, the Contractor or their service personnel shall report back to the Contract Administrator or designee before leaving the facility. Upon completion of each scheduled service, the technician shall provide the Contract Administrator or designee with a completed PM service checklist prior to leaving the facility. The checklist should, at a minimum, indicate the name of the service technician that performed the service, the date of service, PM services performed, and any noted issues that need to be addressed.

After completion of each PM service or emergency call, the Contractor shall provide the Contract Administrator with a written report describing the condition of the UPS system before and after the service, the condition of the battery system, and any service recommendations. The document must also include the name of the service technician that performed the service and the date of service. This report must be submitted to the Contract Administrator ten (10) business days after completion of the associated service.

PREVENTATIVE MAINTENANCE

Preventive Maintenance Services shall be performed on a semiannual basis, two (2) times per year at six (6) month intervals.

PM Services to be performed during each semiannual service shall include:

1. Inspection of the UPS system and battery bank for general appearance and cleanliness. Clean out of any foreign material, dust, and/or dirt from internal compartments which may have accumulated as a result of fan ventilation.
2. Cleaning of the control panels, UPS power modules and UPS area.
3. A check of the ventilation fan for proper operation and any indication of impending failure.
4. Assurance that the air flow through the heat sink assembly is unobstructed and that the temperature inside the unit is within allowable limits.
5. A check of the ambient temperature of the UPS area and the condition of the ventilating equipment.
6. A check of the battery charging circuits for proper operation, voltage and current readings.
7. Tests of each battery for proper voltage and signs of overheating. If there are any indications of low voltage or overheating, a battery load test shall be performed.
8. All engineering changes shall be completed.
9. A check of all battery connections for tightness and corrosion. Corroded terminals shall be cleaned and reassembled with a corrosion preventive. Terminal bolts and nuts shall be torqued to their proper value.
10. An inspection of all printed circuit board connections for cleanliness and a swab of the contacts.
11. An inspection of all power connections, subassemblies, bridges and legs for signs of overheating, component defects and/or stress.
12. An inspection of all DC and AC compactors for signs of leakage.
13. Verification of DC filter capacitance and AC tank and trap filter capacitance.
14. Generator and interface verification.
15. Adjustment of all panel meters to measured values.
16. Replacement of all air filters and all burned out monitor bulbs.
17. Replacement of the power module power supply backup control battery cells where needed.

18. A static switch test. A check and correction of any noted problems causing high temperatures on the breakers, connections and/or associated equipment.
19. An inverter test procedure to indicate measurements are within acceptable limits.
20. An operational load test to ensure that the output voltage, current and frequency measurements are within acceptable limits. Load test must be performed by removing the AC input to the unit.
21. A test of the manual and UV transfer shall be performed including verification of the uninterrupted transfer waveform.
22. An outage simulation and battery capability test that includes verification of the charger current limit.
23. A lamp test on local and remote panels.

SUPPLEMENTAL SERVICE

Upon request and proper authorization by the Department, additional services not covered by the specifications will be invoiced by the Contractor at the Contractor's prevailing billing rate as listed on the contract, and will remain in effect for the life of the contract.

EMERGENCY SERVICE

Contractor shall provide emergency services on a continuous twenty-four (24) hour, seven (7) days a week basis. Response time must not exceed two (2) hours. Contractor shall provide a point of contact and a monitored phone number for emergency service calls. Phone line must be monitored twenty-four (24) hours per day, seven (7) days per week including holidays and times of disaster.

Emergency contact must respond by phone within (30) minutes of the initial emergency call and be on-site within two (2) hours of notification when the UPS system is in bypass mode with a dead critical bus due to UPS failure. This may be bypassed only if the Contract Manager has made other arrangements that will allow for a delay in response time.